15. (Reiterated) The method of claim 14, wherein the AIB1 polypeptide comprises a Per/Arnt/Sim (PAS) domain.

16. (Reiterated) The method of claim 14, wherein the AIB1 polypeptide comprises a basic helix-loop-helix (bHLH) domain.

17. (Reiterated) The method of claim 14, wherein the AIB1 polypeptide comprises an ER-interacting domain.

18. (Amended) [A method of identifying a candidate compound which inhibits ER-dependent transcription] The method of claim 14, further comprising: contacting the compound with [an] the AIB1 polypeptide and an ER polypeptide and determining the ability of the compound to interfere with the binding of the ER polypeptide with the AIB1 polypeptide.

19. (Reiterated) The method of claim 18, wherein the AIB1 polypeptide comprises a PAS domain.

20. (Reiterated) The method of claim 18, wherein the AIB1 polypeptide comprises a bHLH domain.

21. (Amended) [A] The method of claim 14, wherein the method of determining whether the compound binds to the AIB1 polypeptide further comprises: [screening a candidate compound which inhibits an interaction of an AIB1 polypeptide with an ER polypeptide in a cell comprising]

(a) providing a GAL4 binding site linked to a reporter gene;

(b) providing a GAL4 binding domain linked to either (i) an AIB1 polypeptide or (ii) an ER polypeptide;

(c) providing a GAL4 transactivation domain II linked to the ER polypeptide if the GAL4 binding domain is linked to the AIB1 polypeptide or linked to the AIB1 polypeptide if the GAL4 binding domain is linked to the ER polypeptide;

(d) contacting the cell with the compound; and

(e) monitoring expression of the reporter gene, wherein a decrease in expression in the presence of the compound compared to that in the absence of the compound indicates that the compound inhibits an interaction of an AIB1 polypeptide with the ER polypeptide.

22. (Amended) A method of detecting an aberrantly proliferating cell in a tissue sample comprising determining the level of [AIB1 gene] expression of a polynucleotide encoding the AIB1 polypeptide of claim 12 or the AIB1 polypeptide of claim 12 in the sample, wherein an increase in the level of expression compared to the level in normal control tissue indicates the presence of an aberrantly proliferating cell.

23. (Reiterated) The method of claim 21, wherein the aberrantly proliferating cell is a steroid hormone-responsive cancer cell.

24. (Reiterated) The method of claim 23, wherein the steroid hormone-responsive cancer cell is a breast cancer cell.

25. (Reiterated) The method of claim 23, wherein the steroid hormone-responsive cancer cell is an ovarian cancer cell.

26. (Amended) The method of claim 21, wherein the level of [AIB1 gene expression] expression of the polynucleotide encoding the AIB1 polypeptide is measured using an AIB1 gene-specific polynucleotide probe.

27. (Amended) The method of claim 21, wherein the level of expression of the AIB1 polypeptide [AIB1 gene expression] is measured using an antibody specific for an AIB1 gene product.

28. (Reiterated) The method of claim 22, further comprising a method of detecting breast cancer in a tissue sample, comprising determining the number of cellular copies of an AIB1 gene in the tissue sample, wherein an increase in the number of copies compared to the number of copies in a normal control tissue indicates the presence of a breast carcinoma.

29. (Reiterated) The method of claim 28, wherein the number of copies in the tissue is greater than 2.

30. (Reiterated) The method of claim 29, wherein the number of copies in the tissue is greater than 10.

31. (Reiterated) The method of claim 30, wherein the number of copies in the tissue is greater than 20.

32. (Amended) A method of reducing proliferation of a cancer cell in a mammal comprising administering to the mammal a compound which inhibits expression of the AIB1 polypeptide of claim 12 or a polynucleotide encoding the AIB1 polypeptide of claim 12.

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33. (Amended) The method of claim 32, wherein the compound reduces transcription of DNA encoding the AIB1 polypeptide in the cell.

34. (Amended) The method of claim 32, wherein the compound reduces translation of an AIB1 mRNA into [an] the AIB1 [gene product] polypeptide in the cell.

35. (Reiterated) The method of claim 34, wherein the translation is reduced by contacting the AIB1 mRNA with an antisense DNA complementary to the AIB1 mRNA.

36. (Reiterated) The method of claim 32, further comprising a method of inhibiting ER-dependent transcription in a breast cell of a mammal, comprising administering an effective amount of an AIB1 polypeptide to the mammal.

37. (Reiterated) The method of claim 36, wherein the polypeptide comprises a PAS domain.

38. (Reiterated) The method of claim 36, wherein the polypeptide comprises a bHLH domain.

39. (Reiterated) The method of claim 36, wherein the polypeptide comprises an ER-interacting domain.

40. (Reiterated) The method of claim 32, further comprising a method of inhibiting ER-dependent transcription in a cancer cell of a mammal, comprising administering an effective amount of a peptide mimetic of an AIB1 polypeptide to the mammal.

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41. (Amended) A monoclonal antibody which binds specifically to the AIB1 polypeptide of claim 12.

42. (Amended) A method of identifying a tamoxifen-sensitive patient, comprising

(a) contacting a patient-derived tissue sample with tamoxifen; and

(b) determining [the] a level of [AIB1 gene] expression of the AIB1 polypeptide of claim 12 or a polynucleotide encoding the AIB1 polypeptide of claim 12 in the sample, wherein an increase in the level of expression compared to the level in normal control tissue indicates that the patient is tamoxifen-sensitive.

43. (Amended) The method of claim 42, wherein the [AIB1 gene] expression of the polynucleotide encoding the AIB1 polypeptide is measured using an AIB1 gene-specific polynucleotide probe.

44. (Amended) The method of claim 42, wherein the [AIB1 gene] expression of the AIB1 polypeptide is measured using an antibody specific for an AIB1 gene product.

45. (Amended) A transgenic animal wherein at least one copy of the [AIB1] gene encoding the AIB1 polypeptide of claim 12, or at least one copy of the pCIP gene, has been functionally [deleted] altered.

47. (Amended) The [invention] transgenic animal of claim 45 wherein at least one copy of the gene encoding the AIB1 polypeptide or the pCIP gene has been functionally deleted using a method selected from the group consisting of: anti-sense technology, transposon mutagenesis, homologous recombination with a non-functional gene homolog of AIB1.

48. (Amended) [A] The transgenic animal of claim 45, wherein the animal has been genetically engineered to have more than the normal copy number of the [AIB1] gene encoding the AIB1 polypeptide of claim 12.

49. (Amended) The [invention] animal of claim 48 wherein at least one copy of the [AIB1] gene encoding the AIB1 polypeptide has been introduced into the animal on an extra-chromosomal element.

50. (Amended) [A transgenic] The animal of claim 48, [having] wherein at least one AIB1 gene is operatively linked to a non-native promoter.

51. (Reiterated) The invention of claim 50 wherein the non-native promoter is selected from the group consisting of: a mouse mammary tumor virus promoter, a whey acidic protein promoter and a metallothionein promoter.

52. (Reiterated) The invention of claim 50 wherein transcription from the promoter has the characteristic selected from the group consisting of: being inducible, being repressible and being constitutive.

53. (Reiterated) The method of claim 32, wherein the method which inhibits interaction of AIB1 comprises a molecule selected from the group consisting of steroid receptors and nuclear co-factors.

54. (Amended) The method of claim [58] 53 wherein the molecule is selected from the group consisting of: p300 and CBP.

Please add the following new claims:

--55. A substantially pure DNA comprising a sequence encoding the AIB1 polypeptide of claim 12.

56. The DNA of claim 55, wherein the encoded AIB1 polypeptide is human AIB1.

57. The DNA of claim 55, wherein the AIB1 polypeptide comprises the amino acid sequence of SEQ. I.D. NO. 4.

58. The DNA of claim 55, wherein the AIB1 polypeptide comprises the amino acid sequence of SEQ. I.D. NO. 2.

59. The DNA of claim 55, wherein the AIB1 polypeptide comprises the amino acid sequence of SEQ. I.D. NO. 3.

60. The DNA of claim 55, wherein the AIB1 polypeptide comprises the amino acid sequence of SEQ. I.D. NO. 8.

61. The DNA of claim 55 comprising a polynucleotide which hybridizes at high stringency to a DNA having the sequence of SEQ. I.D. NO. 1, or the complement thereof.

62. The DNA of claim 55 comprising a polynucleotide sequence having at least 50% sequence identity to SEQ. I.D. NO. 1.

63. The DNA of claim 55 comprising (a) the sequence of SEQ. I.D. NO. 1 or (b) a degenerate variant thereof.

64. The DNA of claim 55, wherein the DNA is operably linked to regulatory sequences for expression of the polypeptide, the regulatory sequences comprising a promoter.

65. A cell comprising the DNA of claim 55. --

REMARKS

Claims 1-54 were pending. Claims 1-11 and 46 are cancelled herein, without prejudice to renewal. New claims 55-65 have been added. Claims 14, 18, 21, 22, 26-28, 32-34, 36, 40-45, 47-50, and 54 have been amended. Claims 14, 18, 28, 36, 40, and 50 have been amended to change dependency. Support for these changes is found in the claims are originally filed. In addition, support for the amending language of claim 14 can be found in the specification on page 8, lines 28-32. Support for the amending language of claim 18 can be found in the specification on page 8, lines 33-37. Support for the amending language of claim 21 can be found in the specification at page 9, lines 1-9. Support for the amending language of claim 22 can be found in the specification on page 9, lines 12-19. Support for the amending language of claims 26-27 can be found in the specification on page 10, lines 33-37. Support for the amending language of claim 28 can be found in the specification on page 9, lines 19-30. Support for the amending language of claims 32-34 can be found in the specification on page 9, lines 35-38 and page 10, lines 1-4. Support for the amending language of claim 36 can be found in the specification on page 10, lines 5-7. Support for the amending language of claim 40 can be found in the specification on page 9, lines 35-38 and page 10, lines 5-10. Support for the amending language of claim 41 can be found in the specification on page 10, lines 11-12. Support for the amending language of claims 42-44 can be found in the specification on page 10, lines 27-37. Support for the amending language of claim 45 can be found in the specification on page 11, lines 12-14. Support for the amending language of claim 47 can be found in the specification on page 11, lines 12-14 and page 47, lines 7-9. Support for the amending language of claims 48-50